

CLAIMS

1. In a vascular stent having a generally cylindrical shape with an outer surface and an inner surface, the improvement comprising:

5 at least one channel in said outer surface.

2. The improvement according claim 1 wherein said channel is oriented generally parallel to said cylindrical shape.

10 3. The improvement according to claim 1 wherein said channel is oriented generally perpendicular to said cylindrical shape.

4. The improvement according to claim 1 wherein said stent is machined to produce a pattern having at least one stent element.

15 5. The improvement according to claim 4 wherein said channel is machined in one of said at least one stent element.

6. The improvement according to claim 5 wherein said channel contains a medication.

20 7. An apparatus comprising:

- a. A vascular stent having a generally cylindrical shape and having an outer surface; and
- b. A channel located on said outer surface.

8. An apparatus according to claim 7 wherein said vascular stent further comprises a stent element.

9. An apparatus according to claim 8 wherein said channel is located on said stent element.

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10. An apparatus according to claim 9 wherein said channel is generally parallel to said cylindrical shape.

11. An apparatus according to claim 9 wherein said channel is generally perpendicular to said cylindrical shape.

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12. A method of preparing a vascular stent comprising:

a. Securing a bio-compatible tube having a generally cylindrical shape with an outer surface; and

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b. Providing a channel in said outer surface.

13. A method according to claim 12 further comprising creating a pattern in said bio-compatible tube producing a stent element.

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14. A method according to claim 13 wherein said providing step further comprises machining said channel into said stent element.

15. A method according to claim 14 further comprising the step of embedding a medication into

said channel.

16. An apparatus comprising:

a. Means for stenting a vessel having an outer surface; and

b. Means located on said outer surface for enhancing perfusion.

17. An apparatus according to claim 16 further comprising means responsively coupled to said outer surface for imparting differential flexibility.

18. An apparatus according to claim 16 wherein said enhancing means further comprises a channel within said outer surface.

19. An apparatus according to claim 18 wherein said outer surface has a pattern producing a stent element.

20. An apparatus according to claim 19 wherein said channel is located on said stent element in a generally parallel direction.

21. An apparatus according to claim 19 wherein said channel is located on said stent element in a generally perpendicular direction.